

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A method for managing client transactions requesting access to a shared ~~resource~~ storage device, comprising:

logging client transactions providing updates to data in the shared storage device in a log file from multiple clients, wherein an oldest pending transaction logged in the log file is capable of preventing new transactions from being added to the log file;

determining one of the clients transmitting data at a transmission rate less than a threshold transmission rate; and

denying subsequent transactions from the determined client access to the shared ~~resource~~ storage device to provide additional space in the log file for new transactions from the clients, other than the determined client, requesting access to the ~~resource~~ shared storage device.

2. (Currently Amended) ~~The method of claim 1, further comprising:~~ A method for managing client transactions requesting access to a shared storage device, comprising:

logging client transactions providing updates to data in the shared storage device in a log file from multiple clients;

determining one of the clients transmitting data at a transmission rate less than a threshold transmission rate;

denying subsequent transactions from the determined client access to the shared storage device to provide additional space in the log file for new transactions from the clients, other than the determined client, requesting access to the shared storage device; and

removing all pending transactions of the determined client from the log file.

3. (Currently Amended) The method of claim 1, wherein the clients submit transactions ~~requesting the resource~~ to the shared storage device during a session that the clients initiate, further comprising:

determining one client session active longer than a threshold time period, wherein the determination of whether the client data transmission rate is less than the threshold transmission rate is made for the determined client whose session is active longer than the threshold time period, and wherein subsequent transactions are denied access to the shared ~~resource~~ storage device for the client having the session active longer than the threshold period of time and having the data transmission rate less than the threshold transmission rate.

4. (Currently Amended) The method of claim 1, further comprising:
determining one pending transaction whose access to the ~~resource~~ shared storage device has completed; and
removing the determined pending transaction from the log file.

5. (Currently Amended) The method of claim 4, further comprising:
determining one client that has transmitted a threshold amount of data, wherein the determination and removal from the log file of pending transactions whose access to the ~~resource~~ shared storage device has completed is made for all the pending transactions of the determined client that has transmitted the threshold amount of data.

6. (Canceled)

7. (Currently Amended) The method of claim 1, further comprising:
providing a first pointer pointing to ~~[[an]]~~ the oldest pending transaction in the log file that is capable of preventing new transactions from being added to the log file; and
if one of the removed transactions is the oldest pending transaction in the log file, then adjusting the first pointer to point to a next oldest pending transaction in the log file, wherein adjusting the first pointer frees space in the log file for new transactions to be added.

8. (Previously Presented) The method of claim 7, further comprising:
providing a second pointer pointing to a most recently added transaction to the log file;
and
adding a new transaction to the log file by writing information on the new transaction to an address in the log file following the second pointer and adjusting the second pointer to point to the address of the added new transaction, wherein one new transaction cannot be added to the log file if the first pointer addresses a first location in the log file adjacent to a second location addressed by the second pointer.

9. (Previously Presented) The method of claim 8, wherein new transactions are added to sequential addresses in the log file, further comprising:
if the second pointer is at a last address in the log file, then writing information on the new transaction to a first address in the log file and adjusting the second pointer to point to the first address in the log file.

10. (Currently Amended) The method of claim 1, wherein access to the ~~resource~~ shared storage device is provided through a server, wherein the server maintains the log file.

11. (Currently Amended) The method of claim 10, further comprising:
redirecting transactions from the determined client to an additional server providing access to another copy of the ~~resource~~ shared storage device requested by the client transactions.

12. (Canceled)

13. (Currently Amended) The method of claim [[12]] 1, wherein the update transactions are provided by a client backup program to backup client data in the shared storage device.

14. (Currently Amended) A system for managing client transactions from multiple clients, comprising:

a shared resource storage, wherein the client transactions request access to the shared resource to provide updates to data in the shared storage device;

a computer readable medium including a log file;

means for logging client transactions in the log file from the multiple clients, wherein an oldest pending transaction logged in the log file is capable of preventing new transactions from being added to the log file;

means for determining one client transmitting data at a transmission rate less than a threshold transmission rate; and

means for denying subsequent transactions from the determined client access to the shared resource to provide additional space in the log file for new transactions from the clients, other than the determined client, requesting access to the resource.

15. (Currently Amended) ~~The system of claim 14, further comprising:~~ A system for managing client transactions from multiple clients, comprising:

a shared storage, wherein the client transactions request access to the shared resource to provide updates to data in the shared storage device;

a computer readable medium including a log file;

means for logging client transactions in the log file from the multiple clients;

means for determining one client transmitting data at a transmission rate less than a threshold transmission rate; and

means for denying subsequent transactions from the determined client access to the shared storage device to provide additional space in the log file for new transactions from the clients, other than the determined client, requesting access to the resource; and

means for removing all pending transactions of the determined client from the log file.

16. (Currently Amended) The system of claim 14, wherein the clients submit transactions ~~requesting the resource~~ to the shared storage device during a session that the clients initiate, further comprising:

means for determining one client session active longer than a threshold time period, wherein the determination of whether the client data transmission rate is less than the threshold transmission rate is made for the determined client whose session is active longer than the threshold time period, and wherein subsequent transactions are denied access to the shared ~~resource~~ storage device for the client having the session active longer than the threshold period of time and having the data transmission rate less than the threshold transmission rate.

17. (Currently Amended) The system of claim 14, further comprising:

means for determining one pending transaction whose access to the ~~resource~~ shared storage device has completed; and

means for removing the determined pending transaction from the log file.

18. (Currently Amended) The system of claim 17, further comprising:

means for determining one client that has transmitted a threshold amount of data, wherein the determination and removal from the log file of pending transactions whose access to the ~~resource~~ shared storage device has completed is made for all the pending transactions of the determined client that has transmitted the threshold amount of data.

19. (Currently Amended) The system of claim ~~[[14]]~~ 2, wherein an oldest pending transaction logged in the log file is capable of preventing new transactions from being added to the log file.

20. (Currently Amended) The system of claim 14, further comprising:

means for providing a first pointer pointing to ~~[[an]]~~ the oldest pending transaction in the log file that is capable of preventing new transactions from being added to the log file; and

means for adjusting the first pointer to point to a next oldest pending transaction in the log file if one of the removed transactions is the oldest pending transaction in the log file, wherein adjusting the first pointer frees space in the log file for new transactions to be added.

21. (Previously Presented) The system of claim 20, further comprising:

means for providing a second pointer pointing to a most recently added transaction to the log file; and

means for adding a new transaction to the log file by writing information on the new transaction to an address in the log file following the second pointer and adjusting the second pointer to point to the address of the added new transaction, wherein one new transaction cannot be added to the log file if the first pointer addresses a first location in the log file adjacent to a second location addressed by the second pointer.

22. (Previously Presented) The system of claim 21, wherein new transactions are added to sequential addresses in the log file, further comprising:

means for writing information on the new transaction to the first address in the log file and adjusting the second pointer to point to a first address in the log file if the second pointer is at a last address in the log file.

23. (Currently Amended) The system of claim 14, further comprising:

a server providing access to the shared resource storage device, wherein the server includes the computer readable medium including the log file.

24. (Currently Amended) The system of claim 23, further comprising:

an additional server providing access to an additional copy of the shared resource storage device; [[an]] and

means for redirecting transactions from the determined client to the additional server to provide the redirected transaction access to the shared resource storage device.

25. (Canceled)

26. (Currently Amended) The system of claim ~~[[25]]~~ 14, further comprising:
a client backup program, wherein the update transactions are provided by the client
backup program to backup client data in the shared storage device.

27. (Currently Amended) An article of manufacture for managing client transactions
from multiple clients requesting access to a shared ~~resource~~ storage device in a log file, the
article of manufacture comprising code capable of causing a processor to perform:

logging client transactions in the log file from the multiple clients, wherein an oldest
pending transaction logged in the log file is capable of preventing new transactions from being
added to the log file;

determining one client transmitting data at a transmission rate less than a threshold
transmission rate; and

denying subsequent transactions from the determined client access to the shared ~~resource~~
storage device to provide additional space in the log file for new transactions from the clients,
other than the determined client, requesting access to the ~~resource~~ shared storage device.

28. (Currently Amended) ~~The article of manufacture of claim 27, wherein the code is
further capable of causing the processor to perform:~~ An article of manufacture for managing
client transactions from multiple clients requesting access to a shared storage device in a log file,
the article of manufacture comprising code capable of causing a processor to perform:

logging client transactions in the log file from the multiple clients;

determining one client transmitting data at a transmission rate less than a threshold
transmission rate;

denying subsequent transactions from the determined client access to the shared storage
device to provide additional space in the log file for new transactions from the clients, other than
the determined client, requesting access to the shared storage device; and

removing all pending transactions of the determined client from the log file.

29. (Currently Amended) The article of manufacture of claim 27, wherein the clients submit transactions requesting the ~~resource~~ shared storage device during a session that the clients initiate, wherein the code is further capable of causing the processor to perform:

determining one client session active longer than a threshold time period, wherein the determination of whether the client data transmission rate is less than the threshold transmission rate is made for the determined client whose session is active longer than the threshold time period, and wherein subsequent transactions are denied access to the shared ~~resource~~ storage device for the client having the session active longer than the threshold period of time and having the data transmission rate less than the threshold transmission rate.

30. (Currently Amended) The article of manufacture of claim 27, wherein the code is further capable of causing the processor to perform:

determining one pending transaction whose access to the ~~resource~~ shared storage device has completed; and

removing the determined pending transaction from the log file.

31. (Currently Amended) The article of manufacture of claim 30, wherein the code is further capable of causing the processor to perform:

determining one client that has transmitted a threshold amount of data, wherein the determination and removal from the log file of pending transactions whose access to the ~~resource~~ shared storage device has completed is made for all the pending transactions of the determined client that has transmitted the threshold amount of data.

32. (Currently Amended) The article of manufacture of claim ~~[[27]]~~ 28, wherein an oldest pending transaction logged in the log file is capable of preventing new transactions from being added to the log file.

33. (Previously Presented) The article of manufacture of claim 27, wherein the code is further capable of causing the processor to perform:

providing a first pointer pointing to the oldest pending transaction in the log file that is capable of preventing new transactions from being added to the log file; and

if one of the removed transactions is the oldest pending transaction in the log file, then adjusting the first pointer to point to a next oldest pending transaction in the log file, wherein adjusting the first pointer frees space in the log file for new transactions to be added.

34. (Previously Presented) The article of manufacture of claim 33, wherein the code is further capable of causing the processor to perform:

providing a second pointer pointing to a most recently added transaction to the log file;
and

adding a new transaction to the log file by writing information on the new transaction to an address in the log file following the second pointer and adjusting the second pointer to point to the address of the added new transaction, wherein one new transaction cannot be added to the log file if the first pointer addresses a first location in the log file adjacent to a second location addressed by the second pointer.

35. (Previously Presented) The article of manufacture of claim 34, wherein new transactions are added to sequential addresses in the log file, and wherein the code is further capable of causing the processor to perform:

if the second pointer is at a last address in the log file, then writing information on the new transaction to the first address in the log file and adjusting the second pointer to point to the first address in the log file.

36. (Currently Amended) The article of manufacture of claim 27, wherein access to the ~~resource~~ shared storage device is provided through a server, wherein the server maintains the log file.

37. (Currently Amended) The article of manufacture of claim 36, wherein the code is further capable of causing the processor to perform:

redirecting transactions from the determined client to an additional server providing access to another copy of the ~~resource~~ shared storage device requested by the client transactions.

38. (Canceled)

39. (Currently Amended) The article of manufacture of claim ~~[[38]]~~ 27, wherein the update transactions are provided by a client backup program to backup client data in the shared storage device.